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SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

JUNE, 1914.

VOLUME VII. No. 6.

Proceedings of a Meeting of the Society on Friday, May 15th, 1914.

SURGEON-GENERAL

SIR R. HAVELOCK CHARLES, G.C.V.O., I.M.S.(R.), *President*, in the Chair.

SOME ASPECTS OF SURGERY IN THE TROPICS.

BY JAMES CANTLIE, M.B., F.R.C.S.

As regards the actual performance of surgical operations, there is, of course, no essential difference in the actual manipulations necessary, whether the operations be conducted in the temperate or the torrid zones; but surgeons practising in warm climates have certain ailments brought more frequently to the operating table than is the case in more northern parts. There are also many other considerations which the surgeon practising in the tropics has to deal with, which were not encountered during his medical training in Britain. In the first place, the patients are natives or they are Europeans living in a climate which is not that of their native land. Both these groups present new physiological entities to the medical officer newly out from Britain, and, therefore, have to be considered by him before undertaking any serious surgical operation. The environment is also apt to cause astonishment and some bewilderment to the surgeon when he first sees the operating room. The heat necessitates open windows, which he has been taught

to regard as a surgical offence of heinous dimensions in his European school; the presence of the punkah over the operating table causes annoyance, as it delays the patient's going under the anæsthetic, and is also apt to cause chilling of the contents of the abdomen if a laparotomy is being performed; on the other hand, should the punkah be stopped, the operator is horrified to find the sweat from his face dripping into the peritoneal cavity of the abdomen he has opened. These and many other minor points arise in operating theatres in tropical countries which shew that there are environment difficulties which at first seem alarming but which soon subside. The windows of the operating theatre may be open, but they must be screened in the first place to keep out flies, mosquitoes. etc., and dust as well. In the non-manufacturing cities of the tropics, where coal fires are rarely used for cooking or warmth, the atmosphere is much less polluted by dust than in European cities; but even at the expense of somewhat lessening the ventilation of the operating theatre, it is a good plan to have a double screen to the windows and doors of a room in which operations are done. It is only when one notices the amount of dust that falls down between the layers of the double gauze screen that one appreciates to what an extent dust does exist in the air of places in the tropics, where factory chimneys are unknown and the air appears vividly clear. The examination and preparation of a patient before operation should in detail be the same in the tropics as in temperate climates. Every organ should be examined, and especially should the urine be examined for sugar. In the coast ports, where natives frequently take to European ways of living, which usually means meat and champagne in addition to their own native food, diabetes is especially prevalent; and considering that rice forms so predominant a part of the diet of tropical natives, the presence of sugar in the urine is not to be wondered at. The lungs have to be examined for phthisis, for the absence of cough is apt to be due to opium, taken either by the mouth or by smoking; and there can be no doubt that the habit of smoking opium, so common in China, was used as a means of allaying cough in the first instance, and as tuberculosis of the lung is so very prevalent throughout the Chinese Empire, the spread of this habit is readily understood. What was a medicinal agent has now become a luxurious indulgence, in the same way that the morphia habit obtains elsewhere. Heart disease is, of course, searched for before an

operation, and here the question of the presence or the absence of rheumatic fever, so frequent a cause of valvular diseases, arises. I have for many years spoken and written to the effect that rheumatic fever was a disease which gradually diminished as one passes from temperate to warm climates, and that in the tropics the disease was practically unknown. In going through the Colonial Reports lately, whilst looking up the subject of surgical statistics, I have been struck with the large amount of rheumatism and rheumatic fever recorded from well nigh every colony, and where it has been omitted it would seem to be where the report is sanitary rather than medical.

I select a few examples where the disease is specifically mentioned as rheumatic fever or acute rheumatism :—

	Rheumatic Fever, or acute Rheumatism.	Rheumatism.
Jamaica	3 (1912)	1528
Ceylon	34 (1911)	2797
Cyprus	7 (1906)	38
Fiji	12 (1909)	2040
	4 (1910)	—
Hong Kong	4 (1905)	87
Seychelles	3 (1910)	174
Bahamas	3 (1911)	5
Western Australia ...	12 (1902)	—
Somaliland	3 (1909)	234
Guiana	0 (1910)	305
Sierra Leone	0 (1911)	90
Federated Malay States...	3 (1909)	679
Zomba	2 (1909)	186
Basutoland	3 (1909)	1107
Selangor	4 (1906)	761

I have also drawn up a list of the relation of the number of cases of valvular disease of the heart to the cases of acute rheumatism, but that does not concern directly the subject in hand.

I should like to see this point of rheumatic fever cleared up. We know that rheumatism, rheumatic fever, and rheumatoid arthritis are terms which have no exact meaning, but the persistency with which rheumatic fever is mentioned in almost every report, and alongside of

it rheumatism, which presumably means muscular rheumatism, shews that there is a distinction made, and as these returns are made by medical men who, as students, were well acquainted with the disease rheumatic fever, it is impossible to explain the circumstance in any other way than that rheumatic fever prevails fairly widely in the tropics, and that my belief, which obtained until a week ago when my attention was drawn to the subject, has had no foundation.

At the same time I must state that during an experience of well nigh ten years in Hong Kong, where the climate is "rheumatic" to a degree, I saw but one case of acute rheumatism, and that was in the case of a European recently out from England, who had a second attack of the disease.

It is possible that errors in diagnosis are accountable for much of the rheumatic fever reported. Malaria with rheumatic pains, and even swollen joints and several other ailments, including undulant fever, may simulate acute rheumatism closely.

Anæsthetics in the tropics do not cause the surgeon the anxiety they do in Britain. Chloroform is the favourite anæsthetic in warm climates and there seems no reason to think that it will be supplanted. A sufficiency of air is the chief necessity for the safety of chloroform-giving, and in tropical operating theatres or rooms there is plenty, for we find ourselves practically in the open air. In Europe, owing to the present dread of the entrance of air, the operating theatres are close and deaths from chloroform are not unheard of. Other anæsthetics in the tropics are less convenient; the old method of administering ether, with its indiarubber bag and other rubber appurtenances, was at a discount not on account of the gas itself, but on account of the serious effects of a tropical climate on the rubber materials; the recent methods of giving ether by the open method is not in vogue to any great extent in the tropics owing to the difficulty of getting the patient under, due to the rapid evaporation of the ether and the necessity of stopping the punkah or shutting several windows to lessen the freedom of the current of air.

Surgical instruments and appliances are a constant source of anxiety and worry to the surgeon in tropical countries. Far removed as he usually is from a local source of supply, he has to depend upon the materials sent out from England, France, Germany or America, and the instrument makers sometimes do not send their best. In ordering

instruments for a very large hospital in the tropics the medical officer has several instrument makers' catalogues and he picks one from this and one from the other, but the requisition is sent finally to one maker to supply the lot. But this maker has his own syringes, forceps, laryngoscope, auroscope and ophthalmoscope, etc., and he sends his own instead of that specified by the doctor. Then correspondence ensues as to why the particular instrument or appliance specified was not sent and so trouble is begun and continues, also instruments get broken on the way out, or the plating is said to be bad, needles rust and aspirating syringe needles are blocked. The causes of the latter group of troubles are two-fold, the packing was loosely done, and the tin in which the instruments were stored was not soldered. When ordering instruments to be sent out, one imperative condition should be that the tins are soldered. There is a fashion at present to have so-called air-tight cases in an operating theatre for the instruments, and air-tight boxes to send abroad knives, etc. There is no such thing as an air-tight case of this kind; the air in the box expands as the ship enters the area of tropical heat, only to contract later and suck in the sea damp and rust the instruments on the voyage, from the same cause the plating is affected, and when the box is opened at its destination, the complaint comes that the plating was badly executed. It would do away with much of the grievance and grumbling, were the doctor in the tropics to deal with the nearest local agent or chemist, paying him a small percentage on condition that the instruments were in a satisfactory condition when they are handed to the Doctor. The agent's loss could be covered by insurance. Were some such plan adopted much of the disconcerting episodes we know of would be lessened and done away with for the most part. The day is not yet past when instruments are sent out to the tropics in velvet cases, a state of things welcomed by the cockroaches, but not by the purchasers of the instruments. Of appliances, nothing is more affected by the climate than rubber. The best way to deal with rubber tubing is to keep it in water, with it may be a few drops of formalin in a glass-stopped jar, and to keep it away from the light. Light is the chief cause of deterioration of rubber; the jar containing it should be kept in absolute darkness. Rubber gloves may be kept in powder in a glass jar, into the hollowed stopper of which chloride of lime or bleaching powder is placed and kept in position by a piece of gauze and the whole kept in darkness. Gum-elastic

catheters and bougies may be laid in powder and kept in a cool dark place.

Hypodermic syringes are a constant source of trouble. If of glass and vulcanite, or of glass and metal, they soon leak where the glass barrel joins the vulcanite or metal, owing to the heat softening the one and causing alternate contraction and expansion of the other. The syringe made of all metal (or all glass) is better, and it was my insistence on this point to which we owe the all-metal syringe of to-day. The needles should not be of steel for these corrode after use in a few minutes in a dry climate; and even if the wire is put immediately after use into a wet needle, the wire becomes a fixture. Irido-platinum is the only form of needle which should be sent to the tropics; they keep their sharpness longer than gold points and they have but little tendency to corrode and get blocked thereby.

About the equipment of the surgeon himself. He is expected when he takes up his duties, whether it be in the Civil Service or in private practice, to be fit to perform any and every operatiou; for from a study of the operations in the hospitals in the tropics it will be found that the most serious major operations are of common occurrence. How and where a young man of say 24 years of age is to learn his operative surgery is a mystery. He may learn ligature of arteries, amputations, and excisions of joints from the dead body, but although these were the be all and end all of surgery 30 years ago, they are but of secondary importance to-day. He may also learn the mechanism of short circuiting the bowel on the dead body. A dead body operation is not surgery, however, as we know it to-day, and is but a poor training to one going out abroad where he has to deal with diseases requiring acquaintance with skilled clinical manipulations.

It is the absence of training in clinical surgery that causes many a young man to dread taking up work abroad, where he is expected to be a specialist in everything and to be fit to operate on whatever comes along. It is scarcely fair to send out a young man thus equipped; but the difficulty is to know how it is to be removed; where is a young man of 23 or 24 to get the opportunity of performing operations. He may have been a house surgeon, yet he may never have had an opportunity of actually doing a major operation, even an amputation of a limb, in the hospital in which he served. It would be well were

there established a *clinical school of operative surgery*, where men who have joined the Colonial Service, may, under the supervision of the surgeons in the hospital, be given certain operations to do. This should be a regular course. We are sending out our young men well equipped to work intelligently as physicians, but we want them trained in surgery as well, for unless they have actually done the ordinary operations met with in tropical practice they will not be at ease, nor have the confidence necessary to do "anything that may turn up."

What are these operations?

I. *Hernia.*—The relief of strangulated hernia and the operations for radical cure are very commonly met with in the list of tropical hospital operations. An enormous number are done and most successfully, so far, at least, as the life of the patient is concerned. Taking 12 places at random—Radical cure of hernia: cases, 226; death, 1. The places quoted are Grenada, Gold Coast, Jamaica, Ceylon, Sierra Leone, Northern Nigeria, Singapore, Penang, Seychelles, Fiji, Federated Malay States, British Guiana. The figures could scarcely be bettered, and compare favourably with any results in any part of the world. This may be a "safe" operation, but unless asepsis is sure, the results could not be so satisfactory as they are.

To compare these results with those at a large London Hospital, I take at random St. Thomas's Hospital results for two years.

	Operations.		Deaths.
Radical Cure for Hernia ...	441 (1910)	...	3
„ „ „ „ ...	491 (1911)	...	0
	932		3

The tropical figures are highly creditable.

II. *Amputations*: I chose amputations as they are a form of definite manipulation which bears ready comparison.

The result of amputations in a group of 12 places, taking both major and minor, during 1 year was—Amputations, 665; deaths, 15; The figures were taken from the returns from Grenada (2 thigh amputations), Gold Coast, Hong Kong (3 thighs), Ceylon (9 thighs), Sierra Leone (15), Jamaica (27 thighs), Singapore (10 thighs), Bahamas, British Guiana (10 thighs), Penang, Malacca, St. Lucia.

Of the 665 amputations, 76 were through the thigh. Comparing these with 12 years of Hospital returns in Britain, I find the results as follows :—

	General Amputations.	Thigh.	Deaths.
St. Bartholomew's Hospital, 1907-1908-1909 ...	183	17	48
St. Thomas's Hospital, 1908-1909-1910-1911 ...	165	18	62
Westminster, 1902-1903-1906-1908 ...	79	4	22
Edinburgh Infirmary, 1895	153	24	50
	580	63	182

In these lists distinctions are not made between amputations through the hip joint and through the thigh ; the mortality from these is, of course, higher than when the amputations are done through the shaft of the femur. There are no amputations through the hip joint mentioned in the Colonial returns but many such in the Home Hospitals, which accounts very largely, no doubt, for their large mortality. Whatever the explanation it says much for the excellent care there is taken in tropical countries that asepsis is strictly followed. Perhaps, also, the native constitution favours the good results. The fact is that natives recover well after operations, the danger in their case is *on* the operating table, shock being the dread ; the danger in the case of Europeans is not on the table but *after* the operation is over ; a matter of deterioration of " constitution," perhaps owing to climate and ways of living.

II. *Abscess of Liver.*—I have attempted to shew from Colonial reports the proportion of liver abscesses met with to the number of cases of dysentery. In but few instances, however, was the type of dysentery mentioned. This is unfortunate, as it is with amœbic dysentery we are concerned as to the question of its association with liver abscess.

In 12 places the relations were as follows (Nos. for 1 year given) :—

	Dysentery.	Liver Abscess.
Selangor...	934	3
Northern Nigeria	567	0
Singapore	1249	30

	Dysentery.	Liver Abscess.
Penang	421	4
Wellesley Province ...	191	2
Malacca	338	2
Seychelles	105	6
Bahamas...	135	0
West Australia	19	0
St. Vincent	24	0
Fiji	135	6
British Guiana	528	14
	4646	67

In the Pathologist's Report for the Straits Settlement in 1911 I find the dysenteries differentiated thus :—

Amœbic dysentery—acute	106	
chronic	234	
		340
Bacillary dysentery—acute...	88	
chronic	63	
		151
Mixed dysentery—acute	15	
chronic	26	
		41
		532

The number of liver abscesses reported amounts to 21. Therefore to 340 cases of amœbic dysentery, the proportion of liver abscess is 21, = 0·06 per cent., whereas when all dysenteries are included, the proportion would be = 0·03 per cent.

As to the operation for liver abscess, their numbers have steadily decreased since first ipecacuanha, and latterly emetin, were given.

Some 10 years ago I operated upon as many as 14 in one year in London, but for the past 12 months I have only operated on two.

The decrease is due to two reasons—first the scientific use of ipecacuanha and emetin, and because the medical men going out are more expert in this operation.

I see no reason to depart from the grouping of liver abscesses I made some 20 years ago, viz.: supra-hepatic, intra-hepatic, and sub-hepatic, and many writers have followed the arrangement. The

name, supra-hepatic, is given to a collection of pus between the layers of the suspensory ligament of the liver, having the diaphragm above, the liver below, a layer of the lesser sac behind and the greater sac in front. It is seldom or ever associated with dysentery, and the pus is usually sterile. Intra-hepatic abscesses are primarily single, and are, as a rule, the result of amœbic dysentery ; they may appear immediately previous to the onset of the dysenteric attack, or dysentery may develop after the operation for liver abscess has been performed and whilst yet the pus is draining away. The pus from an intra-hepatic abscess is always infected. The sub-hepatic abscess, of which only some half-dozen have been reported, has nothing to do with dysentery. The treatment for hepatitis, and for liver abscess, has been much simplified since the introduction of emetin by ROGERS. Ipecacuanha was always awkward to give, although the reason for this is difficult to quite explain, for it is the emetin in the ipecacuanha which almost exclusively is accountable for the vomiting induced ; yet when given alone it is seldom that vomiting is caused. Ipecacuanha given without emetin seldom causes vomiting, yet the emetin given by itself by the mouth rarely does.

The treatment of hepatic abscess has become, by the introduction of emetin, much more encouraging. The destruction of the amœbæ, even after an operation has been performed, lessens the period of drainage necessary, and the healing of the abscess hastened. It is impossible in the time at command to go into all the details of operation for liver abscess. My rules are :—

1. When in doubt as to the presence of pus, and emetin or ipecacuanha has not relieved symptoms, explore the liver for pus.

2. When the right half of the liver is invaded by pus, or the abscess is supra-hepatic, explore by a hollow needle, introduced between the right ribs, that is, transthoracically.

When the left half of the liver is the seat of pus, cut down upon the part from the abdominal wall in front, and after packing off the exposed part explore by a hollow needle, or open the abscess straightaway.

3. When the pus is found, transthoracically, introduce a trocar and cannula, remove the trocar, and through the cannula introduce a rubber tube, stretched upon a metal rod, so that a rubber tube larger than the lumen of the cannula can, when so stretched, be passed to the bottom of

the cavity in the liver. Withdraw the cannula over the stretched tube, and slackening the rubber allow it to contract towards the bottom of the cavity. Withdraw the metal rod from the tube which is now *in situ*. Fix a syphon arrangement to the drainage tube, conduct it over the side of the bed to a bucket on the floor. Should drainage be too severe, as indicated by the presence of blood in the discharge after, say, 6 to 12 hours later, raise the bucket nearer to a level with the patient's body, and thus lessen the intensity of the syphonage. When bile begins to flow through the tube, say, after a week or two, or three, stop the syphonage and gradually withdraw the tube, shortening it from day to day, or substitute a smaller tube.

4. When the abscess declares itself in the epigastric regions cut down upon it in the usual way, expose the liver, pack the part round with gauze, open the abscess, insert one or two drainage tubes the size of the forefinger, and deal with the wound on ordinary surgical principles. It is quite possible to use the trocar and cannula and syphonage for pus in the left half of the liver, and when unhygienic surroundings forbid opening the peritoneal cavity to reach the left lobe, use the trocar and cannula and syphonage.

5. Emetin should be given systematically whilst the abscess is draining.

I have operated during the past twenty-five years on 142 liver abscesses of the right half of the liver by the trocar and cannula, with 115 recoveries and 27 deaths.

The advantages of the operations are:—(1) that it can be done whilst the patient is almost *in extremis*, with safety; (2) that it can be done by a surgeon single-handed or only with an assistant, perhaps a coolie, to hold the chloroform inhaler over the patient's face. The advantage of this becomes apparent when the doctor is a long way from skilled help, and it may be a journey of some 100 miles or more by camel, by rail, by road or river, before a fully-equipped hospital can be reached; (3) the operation can be done even when the surroundings are unhygienic; for to cut down through the chest wall, remove ribs, open the pleura, cut the diaphragm and open the peritoneum in search of pus in a hovel, in, say, the Sudan with flies in swarms, a camel's dung floor to the apartment, the midden at the door or just below the open window, is an unjustifiable operation, and would not be attempted by any sane man.

I consider the transthoracic cutting operation is seldom required, and will, in time, become an obsolete operation; I fervently hope so. I do not wash out the cavity of a liver abscess; it is unnecessary with syphonage drainage; it is dangerous if done early, the fluid injected has on more than one occasion in my hands and with others, gained access to the open mouths of the hepatic veins, carrying with it perhaps flocculi of pus, and death has rapidly ensued.

The occurrence of hæmorrhage from puncturing a liver by a hollow needle can only be dangerous when the inferior vena cava is wounded. To avoid this, I investigated the position of the inferior vena cava and its relation to the surface of the body. After examining the frozen sections of the body made through the region of the liver in the London museums, I found that the inferior vena cava was equally distant from all points in the operable area over the liver, namely, from the middle line in front to the angle of the right ribs behind. In a body of say 32 inches, the commonest size in circumference over the operable area, the centre of the inferior vena cava is $4\frac{1}{2}$ inches from the surface at all points. I therefore have my needles made not more than $3\frac{3}{4}$ inches long, so that I cannot touch the vena cava even when the needle is pushed in to its full length. The danger of hæmorrhage under these circumstances is nil.

III. *Colon.*—Of all parts of the system the tropical practitioner has to deal with, intestinal troubles are the largest. From the surgical point of view it is only when the more chronic lesions of the colon obtain, and a dysenteric condition resolves itself into one of mucous colitis, and when the lesion is situated, as it usually is, at the junction of the sigmoid flexure and the colon that surgical treatment is called for. It was not until the sigmoidoscope was introduced that we were able to ascertain with precision where the lesion in "mucous colitis" lies. My advice to all practitioners in the tropics is to use the sigmoidoscope systematically and whenever the opportunity offers. My further advice is to avoid the use of the sigmoidoscope under an anæsthetic, except under very exceptional circumstances. The damage we read of caused by this instrument is due to the patient being insensible. The patient's feelings and sensations are the surest guide to prevent injury to the bowel. I know several surgeons who have denounced my advice, and put it down to my want of skill, but that matters little to me. I have used the sigmoidoscope hundreds of

times—scarcely a day passes that I do not introduce it. I have had no "accidents," and only exceptionally has an anæsthetic been given.

When examining the bowel by the sigmoidoscope in most dysenteric states, in mucous colitis, chronic colitis, etc., the conditions found are, as a rule, as follows :—

1. On reaching the junction of the sigmoid flexure and rectum, the patient will call out, "Stop, I am going to have a stool," or will shrink from pain when this spot is reached. The cause of the first sensation, viz., that a stool is threatened, is because at this the narrowest part of the gut, the sigmoid joins the rectum—what I have termed the sigmo-rectal pylorus—and here is the dial whereby we know that a stool threatens in ordinary life. I have proved this time and again, not only by examination from below through the anus, but by examination from above through an artificial anus in the left groin, when the sigmoidoscope is made to touch the junction of the sigmoid and rectum, then and then only does the patient declare a stool to be imminent.

2. Here also is the situation of lesions which serve to perpetuate the condition known as muco-colitis. The appearances presented are confined to the lower part of the sigmoid flexure and present :—(i) a prolapsed condition of the sigmoid flexure into the upper part of the rectum ; this is merely an exaggerated condition of that which normally obtains ; (ii) a ring of mucous membrane showing (*a*) a velvety appearance, (*b*) granulation tissue, or (*c*) ulcerations, scars, or bleeding points. The congestion and swelling due to this inflammatory condition, causes an obstruction or narrowing of the bowel at this point, which leads to an excessive secretion from the mucous surface of the bowel immediately above, just as a stricture of the urethra leads to a secretion of mucous and serum and gives rise to the gleet which also accompanies it. The treatment I adopt of late is to touch the ulcers and granulations with pure carbolic acid ; to wash out the bowels with sea-water regularly ; to keep the fæces soft by a teaspoonful or two of castor oil every night or morning. The diet signifies little ; milk and starvation diet are to be avoided, but instead a fairly generous diet of ordinary food. From time to time owing to neglect, the inflammatory state may light up; instead of the lower two inches of the sigmoid the congestion and inflammation may extend into the descending colon and even across to the cœcum. Such a condition is

usually temporary but should it not pass off and the large intestine continue in a state of sub-acute inflammation then the appendix may be opened and the bowel washed out from thence. I may be unfortunate but I have never brought about any good result from opening the appendix and attempting to alter the condition of things by lavage. Much was expected of this method of dealing with the diseased colon, but in the vast majority of cases it is useless.

When the congestion and inflammation around the sigmo-rectal pylorus continues, I have done good in several instances by opening the sigmoid flexure in the left groin and washing out the part of the bowel below after having placed a small glass speculum in the anus.

Spleen.—In the tropics ruptured spleen is a common fatality. As is well known natives often attempt when fighting to hit one another on the spleen, either by fist or foot, so as to cause rupture. I have put it on record that out of nine ruptured spleens I have met with post-mortem in connection with medico-legal work in Hong Kong, three were ruptured on the inner aspect of the organ, immediately behind the hilum. This might lead to nice points in medico-legal evidence, raising the question of how a blow on the outer aspect of the spleen could cause rupture on the inner aspect of the capsule. When a spleen is ruptured and arrest of the hæmorrhage is attempted by early operation there are three courses open—(*a*) stitching up the wound in the spleen; this I did once in the case of a very limited rupture, with successful result; it depends wholly upon the texture of the spleen capsule whether the stitches hold or not; (*b*) packing the wound is seldom possible, but may be tried; (*c*) removal of the organ. The operation of removal is simple provided that the abdominal incision is sufficiently large to admit of the extrusion of the spleen without dragging upon the blood vessels entering the organ. In the case of gigantic spleens the difficulty is, after exposure of the organ, to reach the blood vessels so as to ligature them without so dragging on the pedicle that they give way either at the time of operation, or subsequently owing to damage to the vessels of the stump.

When the spleen should be removed is a problem which is being worked out at the present time. There can be no doubt that in certain conditions the spleen can be removed with permanent benefit to the patient. Shortly, it may be stated that enlarged spleens associated with

serious changes in any other organ should be left alone; but when the ailment is, as far as we know, primarily confined to the spleen, splenectomy has to be considered as a practical clinical factor in the treatment of any particular case.

In cases of " simple " splenic anæmia, although the definition of that term may not be quite exact, the operation seems successful to a degree.

When chronic splenomegaly cannot be traced to a definite association with, say lesions of the lymphatic glands, when there is present chlorotic anæmia or a tendency to recurrent gastric-intestinal hæmorrhage, chronic splenic anæmia may be judged to be present and the removal of the spleen would seem to present good hope of cure. But even when these signs and symptoms are associated with cirrhosis of the liver (Banti's disease) and the spleen itself has become fibrous, the good that may result from splenectomy has to be reckoned as a possible operation.

The rationale for this operation may be, and probably is, anatomical in character, namely, an obstruction in, or an obliteration of, the splenic vein; and the recurring hæmorrhage would seem to occur when the red blood count gains a certain degree of plethora; the spleen is side tracked off the physiological processes of the body, and its removal in no way interferes with the nutrition or circulation, and its removal relieves the body of a useless and therefore a possibly disease-creating body.

The expectant result of splenectomy for simple splenic anæmia is 87·5 of recovery and cure. When cirrhosis is present in liver and spleen (Banti's disease) the recoveries after splenectomy are only about 50 per cent. of those operated upon.

Splenectomy for chronic acquired acholuric hæmolytic jaundice with splenomegaly, in a young man of 22, is recorded by S. Boyd (Proc. Royal Soc. of Med., Vol. vii., No. 4, Feb., 1914), and this case is of interest in several ways, especially as a positive Wassermann was obtained. Now, a positive Wassermann reaction, as a rule, negatives splenectomy in children especially, for it indicates syphilitic infection of other organs; but the Wassermann reaction may be positive in cases of acquired chronic acholuric jaundice before removal of the spleen and disappear very soon after its removal. This occurred in the case recorded by Mr. Sidney Boyd, who ascribes the positive reaction to have been due to *the excess of bile in the blood serum.*

Splenectomy may be performed for :—

1. Rupture of the spleen.
2. Primary hydatids.
3. „ malignant growth.
4. „ abscess.
5. „ massive tuberculosis of the spleen.
6. Chronic splenic anæmia.
7. „ hæmolytic (splenic) jaundice.
8. Banti's disease.

One of the most interesting phenomena connected with splenomegaly is its association with febrile biliary attacks and the presence in the gall bladder of calculi, inspissated bile or "mud." In cases of this kind (DAWSON, Proc. Royal Soc. Med,, Vol. vii., No. 3, March, 1914) the gall bladder may be cut down upon and gall stones removed yet the jaundice persists, excess of urobilin continues and the serum shews the presence of bile pigment. The theory of the connection of gall bladder troubles, gall stones, cirrhosis of the liver, hæmolytic jaundice, and even cholecystitis, with disease of the spleen and the treatment by splenectomy, opens up a clinical factor of intense interest and a new venue of work for the surgeon.

I intended to speak on many more subjects—on filariasis and all the train of surgical conditions which the disease engenders; on bilharzia infection and its surgery; on oriental sores and their surgical treatment; on goundou, and several other ailments which appertain to the region of tropical surgery. Should the Society favour me with another opportunity of addressing them I hope to deal with some of the many omissions from this paper.

DISCUSSION.

Dr. J. M. ATKINSON : My experience has been in medicine more than in surgery, so I have not many remarks to make, but with regard to rheumatic fever in Hong Kong, I may say that my experience is that it is very rare there. I cannot recollect having seen six cases in twenty-five years in the Civil Hospital in Hong Kong, where we have from 1,600 to 2,000 in-patients in a year. Mr. CANTLIE says at the same time,

during ten years' experience in Hong Kong, he never saw but one case of acute rheumatism. These figures practically bear out the opposite view to the figures he has given us. I think a good many of those he refers to must be malarial rheumatism.

With regard to hernia, the cases we get are nearly all cases of strangulated hernia. The Chinese seldom are operated on for a radical cure.

With regard to liver abscess cases, most of them are dysenteric, and in most of the cases the abscesses are multiple.

Dr. H. E. WATERS: In India we have a considerable amount of rheumatism, lumbago and chronic rheumatism, but I only remember coming across two cases of acute rheumatism. Unfortunately I have had a similar experience to Mr. CANTLIE of finding cases and then their disappearing. I have served in different parts of India and I find the practice is different. One case was in the United Provinces and the other one was in Behar.

With regard to your trouble about india-rubber cases. I have been fairly successful in keeping rubber goods closed up in a box with a large quantity of flowers of sulphur, and they lie loose in it. I prevent the rubber ball of the evacuators cracking by rubbing vaseline on them. By this means I think my rubber has a longer life than before.

Sir W. LEISHMAN: I cannot claim any special knowledge of surgery, but I rather think I can clear up the difficulty which Mr. CANTLIE has encountered with regard to the enormous number of cases of acute rheumatism reported as occurring in Southern Nigeria and Sierra Leone. It happens that that particular fact came also under the notice of a Colonial Office Committee, with which I am connected. It struck us with equal astonishment. But there proved to be a very simple explanation. The annual returns of these Colonies are furnished on a printed form which contains tables of the various diseases to be filled up. That form is a list of diseases taken from the official "nomenclature of diseases," and in it there is only one heading concerned with rheumatic diseases, namely, acute rheumatism. The intention was that, if there was a disease not specifically mentioned on the form, it should be written in at the end. Owing to a misconception on this point all forms of

rheumatism have been put under the heading " rheumatic fever," so that Mr. CANTLIE'S thesis that rheumatic fever is a rare disease in tropical countries is not necessarily invalidated by the returns from these Colonies.

One little point struck me with regard to the trouble in connection with instruments sent out from home arriving rusty and damp. There is a common device which bacteriologists employ when we want microscopic slides sent home. We make a small parcel—it would not apply to a large one, but might suffice for a hypodermic syringe—wrap it tightly in many layers of tissue paper and then plunge it into melted paraffin. That works well in most instances for keeping out damp.

I should like to thank Mr. CANTLIE for his delightful and instructive paper.

Dr. W. O. PON: For the past nine years my practice has been in one of those out-of-the-way places described by Mr. CANTLIE where qualified assistance is not at hand. I can confirm what he says as to having to prepare the patient, give the anæsthetic and operate single-handed. Chloroform is certainly the anæsthetic to be chosen, if a general anæsthetic must be given; but for a long time now I have used spinal anæsthesia instead, with such gratifying results that I feel justified in recommending it to the notice of those similarly placed. Using it you are relieved of the anxiety which giving chloroform under these conditions entails, and of the necessity of, not unfrequently, having to stop the operation and look after the anæsthetic.

I agree that the critical time in operations upon natives is while they are upon the table.

As to rheumatic fever, in an experience of nine years with from 600 to 700 in-patients each year in the Federated Malay States, I have seen one case of rheumatic fever. There are many cases with pains in the joints and other joint maladies, some general and some otherwise, which are put down as rheumatism, but I have seen only one case of rheumatic fever in a native in the whole of that time.

As to getting instruments, I can thoroughly endorse the soldering method. I believe there are some firms who send them out that way, whether you tell them to or not. Those I have received from Messrs. Down Bros. and Messrs. Maw & Sons have been soldered.

The PRESIDENT: It does not seem to me that there has been a great amount of criticism upon this paper, not so much as there might have been. Mr. CANTLIE is a sort of deductive philosopher, he has deduced rules for rheumatism in the tropics, rules for hernia in Chinamen, and aphorisms as to the relative effects of operations on natives and on Europeans. Now he has admitted that he is not absolutely right with reference to rheumatism, not perfectly right as to Chinamen and hernia, and he thus leaves us in doubt as to whether he is correct with regard to the aphorisms.

With regard to rheumatic fever. I happened this morning to look up old diaries, written in 1894 to 1896, when I was on service in Turkestan and Afghanistan. I found noted two cases of acute rheumatism and a great number of cases of chronic rheumatism; all the patients were natives. On turning up the records of the Sanitary Commissioner for the Government of India, for 1911, I found that in the British Army, with strength of 72,371 men, 310 cases were put down as rheumatic fever, giving 28·47 per cent. constantly sick. There were 4,248 women and of these there were eighteen cases; 7,656 children gave six cases and one death; 3,245 officers serving with the British troops shewed six cases amongst them. Among the 2,014 officers attached to the Native Army there were five cases, no deaths. Taking the Indian Army itself, with a strength of 130,441, there were 633 cases of rheumatic fever and one death amongst these. Taking the gaol population, which is slightly less than the Native Army, 109,099, the return gives 655 cases with five deaths. So you have a very great number of medical officers of various services and they cannot all be wrong in the diagnosis. I think you might say that the position with reference to rheumatic fever in the tropics is still *sub judice*.

With regard to chloroform, I am possibly prejudiced. I prefer it to any other anæsthetic. I have had a good deal of experience, as I started giving chloroform at the age of fourteen under my father, who was a pupil of SIMPSON of Edinburgh. I have never once measured the amount given to a patient. I ever gave as much as was required, always stopping when the patient's breathing demanded it. I never went beyond that. I have only seen two deaths; one was in the Richmond Hospital, in Dublin, and the second in Calcutta. The latter one might have died without chloroform. It was a liver case,

abscess underneath the pericardium, and when the pressure caused by the pus was relieved, the weak and flabby heart stopped. I do not consider that death due to chloroform. I cannot say the number of thousands of administrations of chloroform I have been present at, but in a strenuous career at surgery they have been very numerous. I have seen many cases on the verge of death, but that is not the fault of the chloroform, it is the fault of the administration. It was administered for me by coolies who had never seen chloroform. You are busy on a case and you tell them to put on the towel and take it off. You take your chance. If you are not inclined to take chances you will not get through your day's work. When I hear chloroform spoken of in London I say nothing; it is best.

Then another point. With regard to young officers, how to get them blooded. When a man joins the service and goes out to, say, India, it is a very easy thing for him to attend the nearest Civil Hospital and make friends with the Civil Surgeon, and when it is found he desires to do some surgery he will get work. Were I the Civil Surgeon I would not give my patient to any man who came in and said he would like to do the operation. It would not be honest to the patient, because we must remember that many are called to surgery but few are chosen. There is a point and it is the curse of the present age. A hundred years ago it was not easy for any man to become a surgeon who was not fit. Nowadays, owing to chloroform, owing to asepsis, owing to the great improvement in surgical instruments, he is a poor fool who cannot begin surgery. He finds out afterwards.

One or two words with regard to operations. It has often struck me that in the many excellent text books on tropical diseases for men to take abroad with them, one great blot characterises them all, and that is the small attention that is given to the description of surgical operations. There is not a single text book fit to read on surgical operations. Certain of them describe operations as done years ago, and such methods give a very high mortality—in one operation of over 11 per cent., whereas, the proper method should be followed by only one-half per cent. death rate. Here then is an opening for the London Tropical School to bring out a small brochure on surgical cases and their treatment in the tropics. I think it would be really valuable. Take the case of elephantiasis. I do not know any bloodier operation than a bad case of elephantiasis in the hands of a

man who does not know how to manage it. The first case I saw terrified me!—the man died—I was not the operator. The second case was a little better, he lived, but it made up my mind for me that I would either give up surgery or improve upon the method. I consider in this operation the mortality rate should not be over one-half per cent.

I suggest to Mr. CANTLIE'S fertile brain and facile pen this point with regard to throwing light on the fact of mal-description or non-description of the surgical operations in the tropics. I thank him very much for the paper. I enjoyed it and I am sure we all did.

Mr. CANTLIE: I am very much obliged to you for the kind way in which you have received my remarks on some practical points in connection with surgical work in warm climates.

From what I can gather from the discussion anent the subject of the prevelance of rheumatic fever in the tropics, it would appear that my original conception of the almost total absence of this disease in the tropics was not far amiss. On the other hand, a capable observer in the West Indies, if my memory serves me rightly, stated, in his Colonial report, some five or six years ago, that the belief he had heard positively stated that rheumatic fever was unknown in tropical climates was not true; that sub-acute rheumatism was common in the West Indies amongst children, and that it, no doubt, accounted for the prevalence of valvular heart disease amongst adults. The subject was an important one and deserved closer study.

Dr. C. M. WENYON shewed some specimens, under the microscope, of smears made by Dr. NELIGAN from oriental sore in dogs, in Teheran, Persia, and made the following statement with regard to them:—

Dr. NELIGAN, who was the first to demonstrate leishmania in the skin lesions of dogs, tells me that oriental sore is very common, both in human beings and in dogs, in Teheran. Dr. NELIGAN'S discovery of oriental sore in dogs is of much interest, in that it places this disease on the same footing as kala-azar, which is known to occur naturally both in human beings and dogs. A further observation which Dr. NELIGAN has made is that leishmania not only occur in the sores about the heads of the dogs, but that they also occur in the internal organs. Dr. NELIGAN

has sent me smears of the organs of dogs which had oriental sore and in the bone marrow fair numbers of leishmania occur. Here is a difficult question to settle. Does the presence of leishmania in the organs mean that the dogs are suffering from a general infection of *leishmania tropica*, the parasite of oriental sore, or does it mean that in Teheran there occurs also canine kala-azar, and that the dogs with the general infection, as well as the local skin lesions, are suffering from both diseases, oriental sore and kala-azar? A mere examination of the films cannot answer this question, which can only be settled on the spot by further observations and experimental work.

Dr. G. C. Low, on behalf of Dr. CASTELLANI, shewed a specimen of an organism which he (Dr. CASTELLANI) had termed an entoplasma. This was found in the stools of patients suffering from dysenteric symptoms. Dr. Low invited fellows to express their opinion on the nature of the bodies.

Dr. C. M. WENYON: Perhaps I may be permitted to make some remarks upon Dr. CASTELLANI'S supposed new parasite of man, the entoplasma. In the first place, in his papers describing this organism, Dr. CASTELLANI speaks of it as producing dysenteric symptoms in man. As there has been no post-mortem on any case, nor any experimental work, how, may I ask, does Dr. CASTELLANI know that the organism is in any way pathogenic. Its occurrence in the fæces may be purely accidental, as is the case with most of the organisms found along with it.

I have examined the films made by Dr. CASTELLANI most carefully. These were merely dried smears of the mucus containing the parasite and stained by giemsa stain. As is now fairly well known this method of preparation is particularly fatal to the intestinal protozoa. The appearance of the parasite in these films is in no way different from the appearance of small balantidia in similarly prepared films. Dr. CASTELLANI himself admits that he cannot tell whether it is a ciliate or a flagellate, yet, in spite of this, he can be sure it is a new genus for which he proposes the name entoplasma. Surely the determination of a new genus requires a more detailed knowledge of an organism than that required to identify it as a ciliate or a flagellate. The

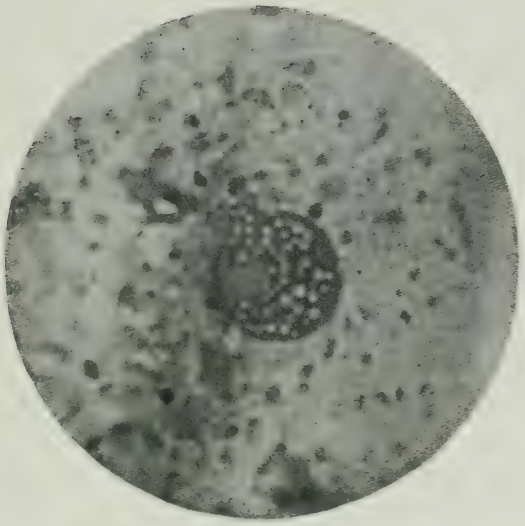

FIG. 1.

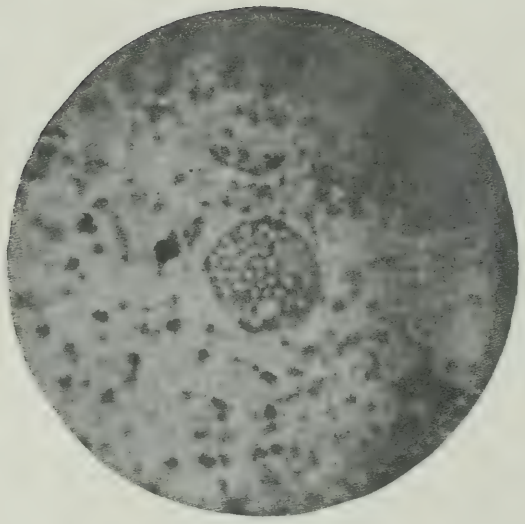

FIG. 2.

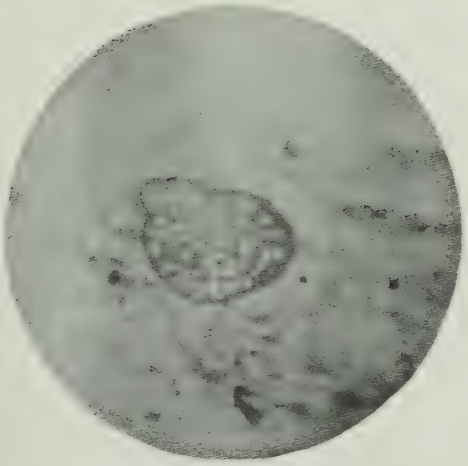

FIG. 3.

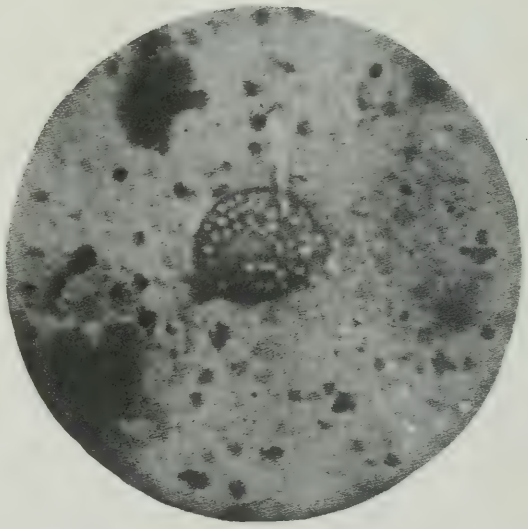

FIG. 4.

Microphotographs illustrating Dr. Castellani's specimens of an organism termed by him entoplasma.

movements described by Dr. CASTELLANI resemble those of a ciliate more than anything else, and in the dried films I have seen certain longitudinal markings, especially towards what is probably the anterior end of the organism, which remind me very strongly of the longitudinal lines on the body of balantidium and other ciliates. In his first paper Dr. CASTELLANI described the nucleus as of the diffuse type. The nucleus of any ciliate, which is naturally a very compact structure, at once becomes diffuse when dried, owing to its rupture. In the living state the organism is actively motile, shewing only slight changes in shape, while the anterior end exhibits a vibratory motion. Dr. CASTELLANI says that this vibratory motion suggests the presence of flagella, but more likely it is an indication of a cytostome. Neither cilia nor flagella were seen to account for the motility, and Dr. CASTELLANI states that he does not deny their presence though he was unable to see them. Cilia are often very difficult to see, especially in thick media like mucus or fæces. It seems to me, therefore, that the organism is most probably a ciliate but, be that as it may, it is evident that Dr. CASTELLANI has not sufficient knowledge of it to justify the creation of a new genus, the diagnostic features of which he is quite unable to supply.

Dr. J. G. THOMSON: I did not intend, Sir, to say anything because I have only looked at the slide once, and that for a very short time. I quite agree with Dr. WENYON that there seems to be too little evidence upon which to name a new genus. The slide seems badly stained, or else the stain has faded. In the slide which I examined I saw the nucleus did not shew any distinct chromatin at all, and in a specimen like that, if the nucleus is unstained then anything like a flagellum would be invisible.

In these micro-photographs, what I take to have been the position of the nucleus is light coloured. If you take a micro-photograph of a well-stained trypanosome or amœba, in which the nucleus is stained red, it always comes out dark in the photograph, so that, looking at these photographs which were taken, I presume by Dr. CASTELLANI, from stained specimens, the nucleus does not seem to have been stained any better than the specimen we have examined. If it had been stained red, that area in the photographs which is white should be dark. In that case the

specimens from which they were photographed would not shew the possible presence of flagella. I do not know whether Dr. CASTELLANI has examined them in fresh specimens or not.

It does not seem to me, however, quite fair to criticise the work of so distinguished an observer as Dr. CASTELLANI on the evidence of a single slide, which may have faded, and it is necessary to have further information before finally giving a useful criticism.

Sir WILLIAM LEISHMAN: I might suggest a possible means of determining the doubt which has been mentioned as to the presence or absence of cilia or of flagella on these bodies, that is by submitting the stained specimen to dark ground illumination. I have found that even fixed and stained objects may, with advantage, be submitted to this form of illumination, and that the colouring of the various elements interferes wonderfully little with the variations in refraction observed in the unstained object suspended in a fluid.

Dr. G. C. LOW: I think, in justice to Dr. CASTELLANI, I should say that he has examined fresh specimens and has also stained specimens with the iron hæmatoxylin method. Neither in the fresh nor in the stained specimens has he seen cilia or flagellæ. Dr. CASTELLANI admits that the specimen I have shewn to-night is not a perfectly stained one, and this being the case, it is not, of course, a fair sample to judge from.

As to what the parasite is I do not know, but to my mind it looks more like a balantidium than anything else.

Perhaps it would have been advisable to wait before giving it generic rank.

Sir WILLIAM LEISHMAN has also sent the following note :—

"Thanks to the kindness of Dr. LOW I have had the opportunity of examining Dr. CASTELLANI'S slide by the above method. Neither cilia nor flagella were observed, and the only other points of interest were the absence of any refractile granules in the bodies, and the demonstration that the clear unstained areas are apparently mere empty spaces, though perhaps, in the fresh specimen, they were vacuoles filled with fluid."

"RAW LIP."

By JOSEPH NUMA RAT, M.R.C.S.

Received April, 1914.

The condition of the lower lip, popularly known as "raw lip" in the islands of St. Kitt's and Nevis, is a chronic affection which, as a rule, is only met with among the labouring classes, and especially in those persons who work out of doors.

The redness of the lip, in contrast with the neighbouring black skin, is the most striking feature of the disease, and most probably suggested the name by which it is generally known. The swelling varies in degree, not only in different cases, but in the same patient according to the amount of irritation, such as exposure to the sun, etc., to which the lip has been exposed. In some individuals the lip is only slightly thickened, while in others it is conspicuously hypertrophied, and occasionally even pendulous. The redness appears to be due to superficial ulceration, and is accompanied, in many cases, by an outgrowth of granulation tissue, rising about one-eight of an inch above the general level of the mucous membrane. The ulcerated surface, which is about one quarter of an inch wide, does not usually extend to the angles of the mouth, but stops within about an eighth of an inch from them. The upper lip is never similarly affected.

Though it occurs generally among persons of the labouring class, it is sometimes seen among those in a higher station; but it is almost entirely among the blacks that it is observed. It may be seen in coloured people of the lower classes who have only a slight admixture of white blood, and who live practically under the same conditions as the pure negroes, but it is not met with as a rule among the coloured people of higher rank, or among white people.

This limit to its prevalence suggests that unhealthy conditions of life and exposure are important contributing factors in its production.

The youngest patient in which I have observed it was sixteen. The oldest of the reported cases was seventy. According to my experience the affection once begun continues for the rest of life. The patient aged seventy contracted it at fifty, and so had suffered twenty years from it. In another, in whom it began at sixteen, it had lasted twelve years, when she was interviewed.

Locality also appears to influence its prevalence. It seems to be less common in St. Kitt's than in Nevis, and more so in one of the parishes of the latter island than in the rest. All the cases here given in illustration of the disease were met with in St. John's Parish, Nevis.

In three of the five cases reported in this paper, the affection began with a central fissure; in the other two there was no fissure, but only dryness. The fissure was followed by ulceration; the dryness by blistering. Itching is mentioned as a symptom in only one of the cases.

The affection develops gradually in from one to six months. It may heal and break out again six times a year; though it may not recur for a whole year. Exposure to the sun increases the frequency of its recurrence.

There are no constitutional symptoms connected with it. It does not seem to be a symptom of any other known disease.

The questions to which the notes of the cases reported are replies are the following :—

1. At what age did the affection appear?
2. What were the earliest symptoms?
3. How long was it in developing?
4. Did it disappear and return? If so, how often and at what intervals?
5. What are the present symptoms?
6. Are the lip lesions accompanied by any other symptoms?
7. Are there any constitutional symptoms connected with the disease?
8. Have the patients been suffering from any other disease?

The treatment which has given the best result has been applications of glycerine of resorcin; and I have also found protargol useful. In one case I removed the whole of the affected part with the knife under a general anæsthetic, and the affection did not return for three years after, having been apparently radically cured.

Martha Ann Liburd, 28 years, of Brown Hill, Nevis, labourer, coloured.

1. The disease first appeared about twelve years ago.
2. First began with redness and dryness. There was no itching or swelling. Later it got blistered right across except corners of the mouth.

3. It took about a month to become badly ulcerated.

4. It healed several times and got bad again. It remained healed in one instance for a year, but usually it gets bad about four or five times annually.

"If I worked often in the sun it did not get bad quickly, but if I stayed in-doors for a couple of weeks and then went to work it would quickly get bad."

5. Raw surface—length 1 inch and width $\frac{1}{4}$ inch.

6. Enlarged gland at groin, occasionally gets painful.

7. No constitutional symptoms and usually enjoys good health. Has had ague on one occasion.

8. Not suffering from any other disease.

Martha J. Philip, 70 years, Bath Village, Nevis, labourer. black.

1. Disease began at 50 years.

2. "The lip first got squeezed by cane peel, then cracked down the middle and ulcerated on either side of crack. There was no marked swelling nor itching. Has always been painful."

3. Took about six months to get developed.

4. Shewed signs of healing several times but never healed completely, about six times annually it improves and then breaks out again.

5. Partly healed, skin much discoloured, the cicatrized surface extending from one corner of the mouth to the other. Lips very large and pendulous.

6. Cold in head, running from nostrils, swelling under chin and neuralgia of the face, sense of smell lost. The lip is much swollen. No enlarged glands anywhere.

7. Gets fever occasionally.

8. Coryza and neuralgia.

Alfred Stancliffe, 28 years, labourer, black, lives at Montpelier, Nevis.

1. It first appeared at 24.

2. Cracked down the middle, swelled a good deal and then ulcerated on either side. The lip sometimes itches very much.

3. It took about six weeks to get very sore; at that time it did not itch so much.

4. " The lip has healed on several occasions, leaving only white scar tissue, but would quickly become bad when I worked in the sun. The intervals between the healing and breaking out is about three or four weeks. It remains healed a little longer if I did not work often in the sun."

5. No present symptoms. Lip at present healed, only white scar tissue remaining, this is somewhat depressed and measures 1 inch by ¼ inch.

The upper lip has never got affected.

6. No symptoms whatever. He is of good physique.

7. No constitutional symptoms.

8. No other disease.

John Levine, of Bridge Ghant, Nevis, 26 years, labourer, black.

1. Disease first appeared at San Domingo, about five years ago, whilst in a hospital there undergoing treatment for an injury to his leg.

2. First symptom was cracking of the lip in the middle. It was thought to be due to fever from which he suffered. It remained cracked and ulcerated on both sides of crack.

3. It took about four months to get fully developed.

4. It healed completely about 2½ years ago when at the Alexandra Hospital, Nevis.

5. A raw surface measuring 1½ inches long and ⅜ inch wide.

6. Enlarged glands at groin, painless and permanent, existing from earliest recollection.

7. No constitutional symptoms. Does not suffer from fever.

8. At present has ulcer of foot and hydrocele.

Albertha Pearson, 39 years, of Brown Hill, Nevis, school teacher, black.

1. The disease first appeared about 4 years ago.

2. The earliest symptoms were dryness, itching and burning and later on the lip was blistered right across except about ¼ inch on either side from the corners of the mouth. (It did not first get cracked down the middle.) Only the lower lip was affected.

3. It took about three months to be badly ulcerated. It itched more after it ulcerated.

4. The lip got well several times, leaving only a scar, then would break out again. It has never remained well for more than a couple of months. It heals and breaks out again about six times annually.

5. It is at present ulcerated nearly right across and very red; there is no apparent enlargement. The corners remain unaffected. The raw part is about $1\frac{5}{8}$ inches long and $\frac{1}{4}$ inch wide.

6. No other symptoms at present. Has had enlarged glands of the neck, like mumps; this was about six months ago.

7. Suffers from fever and headache frequently, and usually at the times when the lip is much inflamed. Ague has accompanied these symptoms on one or two occasions.

8. Not at present suffering from any other disease.

A CORRECTION.

Fleet-Surgeon BASSETT-SMITH has requested that the following correction should be made of a sentence which appeared in a paper contributed by him at the meeting of the Society held on Friday, February 20th, 1914.

In Vol. VII., No. 4, page 158, in the paper on the "Blood Changes in Verruga and Oroya Fever," reference was made to the work of STRONG and his description of the characters of the BARTON'S X bodies was given, which he called *Bartonia bacilliformis*. The sentence "that Oroya Fever is a specific disease due probably to a filter passer," should read "that Oroya Fever is a specific disease due to a protozoal organism"; which is in agreement with the context and with the review of STRONG'S paper in Bull. Trop. Dis., Vol. 2, No. 12, page 620.

ELECTION OF FELLOWS.

The following were duly elected Fellows of the Society :—

Charles A. Bentley, M.B., Calcutta.

C. F. Lasselle, M.D. (Ed.), Trinidad.

Felix R. Paez, M.D., Caracas, Bolivar.

R. H. von Ezdorf, M.D., Alabama.

M. B. Yin, M.B., Rangoon.

EXCHANGES.

Anales de la Academia de Ciencias Medicas Fisicas y Naturales de la Habana.

Annali di Medicina Navale e Coloniale.

Archives de l'Institut Pasteur Tunis.

Arquivos do Instituto Bacteriologico Camara Pestana.

Bulletin Public Health and Marine Hospital Service of the U.S.

Bulletin of the Tropical Diseases Bureau.

Bulletin de la Société de Pathologie Exotique.

Bulletin de la Société Portuguaise des Sciences Naturelles.

Bulletin de l'Academie Royale de Médecine de Belgique.

het Geneeskundig tydschrift voor Nederlandsch-Indie.

Johns Hopkins Hospital Bulletin.

Journal of The London School of Tropical Medicine.

Journal of Tropical Medicine and Hygiene.

Journal of Tropical Veterinary Science.

L'Enseignement Medico Mutuel Internationale.

Memorias do Instituto Oswaldo Cruz.

Philippine Journal of Science.

Revue de Médecine et d'Hygiene Tropicales.

Sanidad y Beneficencia.

The American Journal of Tropical Diseases and Preventive Medicine.

Veterinary News.

Yellow Fever Bureau Bulletin.

NOTE.—The above publications lie in the Society's room at 11, Chandos Street, W., and are at the disposal of Fellows.

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